

Renovation of a Concrete Pond

by Kirk & Gail Hermann, Koi Villa Water Garden Center, Rhode Island & Florida

The 2004 Pondapalooza Convention was located in PA last year and it was our first time attending a stone bottom convention. We honestly had second thoughts about going, but did, and were glad in the end as we had made the right decision.

The show had many stone bottom pond dealers and a few koi pond enthusiasts. We kept asking ourselves why we were bringing bead filters when the majority of attendees were Aquascape Builders or Dealers. But we decided to attend and, as always, we met some old friends and made a few new ones.

The best part of the show for us was being with Representatives from Matala, Microbe-Lift, Green-Clean and IPS-Carefree Enzymes, as we learned so much from them.

A man came into our booth on the first day, and introduced himself to Kirk. His name was Bill Freitag, owner of Country Gardens in Rowley, MA.

He stayed and talked with Kirk for quite awhile reminiscing about the old days when we had a fish farm in Foster, Rhode Island.

They also talked quite extensively about renovating older ponds and Kirk's seaming techniques, which he remembered from the 80,000 gallon ponds at the farm and the recent article that he had read on-line in the MAKC Library.

Below is Bill Freitag with his own Koi Pond.



Bill Freitag

Bill said that he would keep Kirk in mind, as he had several landscapers that had very unusual pond repairs coming up.

One of Bill's landscapers, Jack O'Brien, was the first to call us the following spring.



Jack had stopped in Country Gardens to tell Bill about a difficult project that he was involved in and that he needed a person with a background in repairing old ponds. Bill listened and then referred him to Koi Villa. He called

and made arrangements for Kirk to make a site consultation.

O'Brien's Landscape & Tree Service, Inc was established in 1973 by owner Jack & Sandy O'Brien of "Manchester-By-The-Sea."

Sandy became involved in the projects, using her knowledge of perennials and quickly learning about aquatic plants, fish & pond care. Together they provided pond care, troubleshooting installation and renovation of existing ponds in their area.



Sandy O'Brien

Jack O'Brien started as a youth working on numerous estate landscapes. His experience and willingness to try new ideas and his love for the trade transpired into his successful business.

About 10 years ago, Jack became intrigued with water features. With Sandy and his crew, he constructed a demo pond and waterfall in his backyard.

To the right is the pond that we worked on.

This pond renovation is indeed worthy of being shared with you. It was a wonderful opportunity to work with the "O'Brien team" and we thank Bill Freitag for recommending us for this project.

We will take you from the beginning to the end as to how we renovated this old cement pond which had lots of leaks in the streambed but the pond itself was so far off-level that the cement showed everywhere and was a real eye-sore. Even under these conditions it was home to many older and large koi.

On first inspection the water was so green that we couldn't even see the fish. Today, it is a healthy, crystal clear, leak-free home with an upgraded filtration system.

In mid-June we started the project. The landscaper had already emptied the pond and was working on it.

Koi Villa works by the hour on all repairs as it's unfair to base a time frame on problem solving especially when the pond is green, full, and no one knows what lies underneath.



To our surprise, the pond had lots of big shelves that we had not bargained for and we now knew that the time frame would be longer than what had originally been guesstimated,

approximately 60 hours. The condition of the cement was poor, flaking, leaking and not leveled.



To prevent any problems related to not being level in the future, we used a transit to run a laser line around the top of the cement pond. Then, we cut to the line.

Next, we made a shelf around the pond up to 2' in depth giving more water by raising the pond 6".



A 1/2" thick felt pad was glued to the side walls of the pond with a spray glue keeping it intact and smooth for the liner installation.

The pond owners already had a bead filter, but it wasn't working correctly so we knew that it needed improvements and planned to fix it when the filter was reinstalled.

Two holes were cut into the cement for each Savio skimmer; we installed two 57 watt UVs in each skimmer.



Another hole was cut along the bottom of the cement pond 50' long, to install the 3" bottom drain with the attached Defuser and sinking-weighted air line to a Medo LA28B Aerator.

The original 30' cement streambed was removed and re-installed using 1/2" felt and 45 mil liner. This streambed went behind the tree. We installed a 24" waterfall filter at the top.



The waterfall was filled with 2 C.F. of PVC Media for additional biological filtration.



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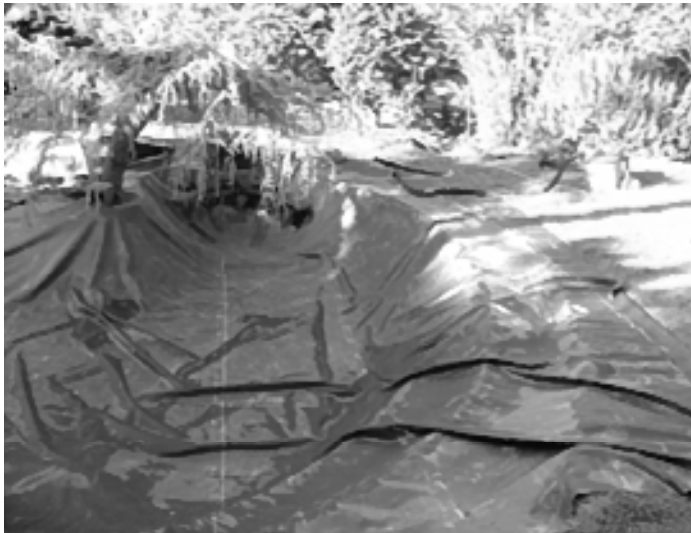
The easiest way to understand and show the splicing of the seaming is to follow a very simple procedure: We all know that liners that have folds accumulate lots of "Gas Pockets" which cause many problems. So, to avoid potential problems, I found a solution. I cut and seam every liner that I install.

People think that I am nuts, but I leave no areas for harmful bacteria and parasites to thrive in!

- First you lay the Underliner down in



Kirk



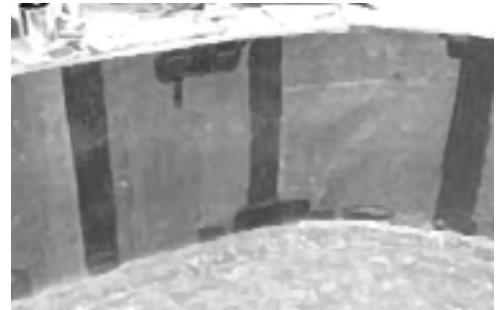
place. You do this by cutting it into place and spraying glue onto the Underliner and to the cement walls.

- Now lay the liner in place and let the sun relax it for at least 2 hours.

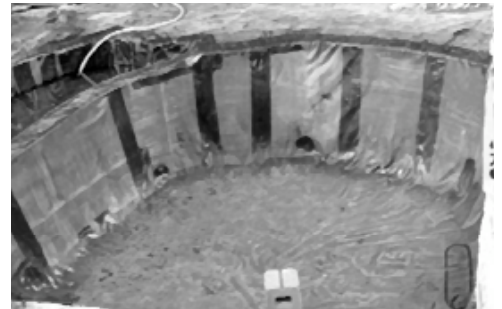


- You must start in one corner.
- Your liner will now be folded because it is too large for the radius. It is easiest to fold it and then cut up the fold.
- Now, overlap your liner. If the bottom is bunched up you may need to cut it horizontally as well.

- You now need to cut the top layer straight up and down. This is to create a straight seam and get rid the excess rubber.



- Open the top layer up.
- Wash the back side of the top and the face of the bottom liner with Lacquer thinner.



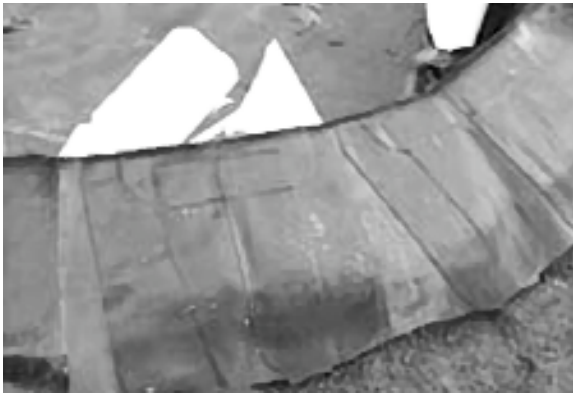
- Take the magic marker and draw a line down the overlap.
- Always work with no more than 4' lengths.



- Cut the top layer straight up and down. This is to create a straight seam and get rid of the excess rubber. (The lap that is over the bottom liner.)

GLUE:

1. You should have at least a 3–6" overlap.
2. Glue the back of the top and the face of the bottom. The glue goes to the line that you drew with the magic marker.
3. Both sides must be tacky before you bond them together.
4. Take the top piece of liner and hold it in the air, then bring it to the line on the bottom liner.
5. Starting at the bottom, make sure the top is over to the line before you start putting pressure against the bottom of the seam.



6. Hand-rub it all the way up. Wipe the top with Lacquer thinner.

We used over 800' of 45 mil liner, 200' of tape, 10 tubes of caulking, 600' of 1/2" felt, spray glue for the under-liner to the cement walls and 4 gallons of glue on the liner for seaming.

The system was updated by changing the beads, drilling more holes inside the unilaterals to increase the water flow, adding a

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2 HP blower, check valve and Turbo Vortex and an A-1/275 Artesian Pump.

We also installed a winter blow out system, which will allow for easy winterizing. We design one for each of the systems that we install or sell, as it takes approximately 10 minutes to blow out the lines for winter.

Kirk works in the New England area from April through November and then resides on the west coast of Florida during the winter. He is normally booked one year in advance for big projects, and every one of his clients knows that his number one priority is emergency calls and that he is off and running wherever he is needed. ❖

